

## Amendments to the Claims

### Claims 1-35 (**Canceled**)

Claim 36 (**Currently Amended**) An apparatus for plating a surface of a substrate to fill a wiring recess in the surface with a metal, said apparatus comprising:

- a frame;
- a load/unload unit on which the substrate is held;
- a transfer mechanism disposed in said frame; and
- a plurality of processing units disposed in said frame so as to surround said transfer mechanism, said processing units including:

- an electroless plating unit for performing an electroless plating process to form an initial layer on the substrate; and

- an electrolytic plating unit for performing an electrolytic plating process to fill the wiring recess with the metal while the initial layer serves as a feeding layer,

- wherein said electroless plating unit includes:

- a seal packing to be brought into contact with the substrate;
    - a plating cell for forming a hermetically sealed space with the substrate and said seal packing, the hermetically sealed space having a volume sufficient for receiving a minimum amount of an electroless plating liquid required for the electroless plating process; and
    - a turntable for holding the substrate so that the substrate is cleaned and dried after the electroless plating process.

Claim 37 (**Previously Presented**) An apparatus according to claim 36, wherein said transfer mechanism is linearly movable.

### Claim 38 (**Canceled**)

Claim 39 (**Previously Presented**) An apparatus according to claim 36, wherein said processing units also include a cleaning and drying device for cleaning and spin drying the substrate after the electrolytic plating process.

Claim 40 (**Canceled**)

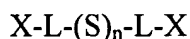
Claim 41 (**Previously Presented**) An apparatus according to claim 36, wherein said processing units also include a pretreatment unit for performing a pre-treatment process of the electroless plating process.

Claim 42 (**Previously Presented**) An apparatus according to claim 36, wherein said electrolytic plating unit comprises an electrolytic plating bath having a plating liquid comprising copper sulfate ( $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ ) having a concentration of 100 to 250 g/l.

Claim 43 (**Previously Presented**) An apparatus according to claim 36, wherein said electrolytic plating unit comprises an electrolytic plating bath having a plating liquid comprising sulfuric acid ( $\text{H}_2\text{SO}_4$ ) having a concentration of 10 to 100 g/l.

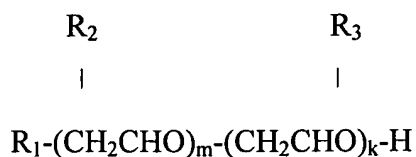
Claim 44 (**Previously Presented**) An apparatus according to claim 36, wherein said electrolytic plating unit comprises an electrolytic plating bath having a plating liquid comprising chlorine ions having a concentration of 0 to 100 mg/l.

Claim 45 (**Previously Presented**) An apparatus according to claim 36, wherein said electrolytic plating unit comprises an electrolytic plating bath having a plating liquid comprising at least 0.14 to 70  $\mu\text{mol/l}$  of a sulfur compound expressed by a formula



where L is an alkyl group having a carbon number of 1 to 6 which is substituted by a lower alkyl group, a lower alkoxy group, a hydroxyl group, or a halogen atom; n is an integer; and X is a hydrogen atom, a  $-\text{SO}_3\text{M}$  group, or a  $-\text{PO}_3\text{M}$  group; and M indicates a hydrogen atom, an alkali metal atom, or an amino group.

Claim 46 (**Previously Presented**) An apparatus according to claim 36, wherein said electrolytic plating unit comprises an electrolytic plating bath having a plating liquid comprising at least 10 to 5000 mg/l of a macromolecular compound expressed in a formula



where R<sub>1</sub> indicates a residue of a higher alcohol group having a carbon number of 8 to 25, a residue of an alkyl phenol with an alkyl group having a carbon number of 1 to 25, a residue of an alkyl naphthol with an alkyl group having a carbon number of 1 to 25, a residue of a fatty acid amide having a carbon number of 3 to 22, a residue of an alkylamine having a carbon number of 2 to 4, or a hydroxyl group; R<sub>2</sub> and R<sub>3</sub> indicate a hydrogen atom or a methyl group; and m and k indicate an integer from 1 to 100.

**Claim 47 (Previously Presented)** An apparatus according to claim 36, wherein said electrolytic plating unit comprises an electrolytic plating bath having a plating liquid comprising at least 0.01 to 100 mg/l of a nitrogen compound.

**Claim 48 (Previously Presented)** An apparatus according to claim 36, wherein said frame is rectangular in shape.

**Claim 49 (Previously Presented)** An apparatus according to claim 36, wherein said electroless plating unit also includes a waste liquid tank for receiving the electroless plating liquid that has been used for the electroless plating process, without circulating the electroless plating liquid.

**Claim 50 (Previously Presented)** An apparatus according to claim 36, wherein said electroless plating unit further includes a cleaning nozzle for ejecting a cleaning liquid to a surface of the substrate to clean the substrate after the electroless plating process.

**Claim 51 (Previously Presented)** An apparatus according to claim 36, wherein said turntable is configured to be rotated at a high rate of speed to dry the substrate after the electroless plating process.